Building Number: 23

Original Name: **Dormitory / BOQ**

Est. Year of Construction: **1952**

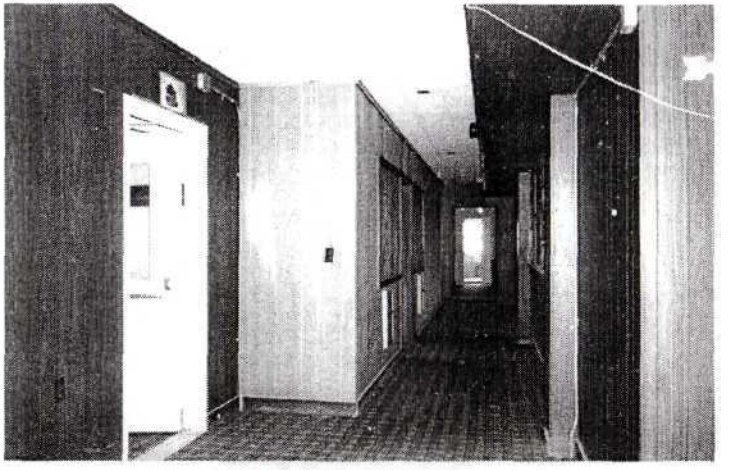
General Data

- Square Footage: 11,240
- # of Floors: 2
- # of Rooms: 66
- # of Bedrooms: 36
- # of Bathrooms: 18
- # of Kitchens: 1
- # of Laundry Rooms: 0
- # of Shower Rooms: (same as bathroom)
- Basement or Crawl Space? Crawl Space
- Ceiling Heights: 8'-2"

View from southwest.

History and Future Plans

Building #23 was originally used as a Dormitory and known as a Bachelor Officers' Quarters. Located at the eastern edge of the site, it overlooks the ocean. NPS anticipates use of the building either as a conference center with classroom meeting space and offices or as laboratory facilities, with overnight accommodations.



Interior corridor.

Interior – typical bathroom and hallway (beyond); note high thresholds.

Exterior Conditions

- *Roof*

  Asphalt shingle roof in **poor condition**. Advise replacement of all +/- 68 squares. Some deterioration at deep overhangs.

- *Wall*

  Exterior is sheathed in white cedar shingles that have been weathered, especially on the South and East elevations. Overall **condition is fair**. Replacement of 800 SF recommended.

- *Trim*

  Wood trim is in **fair condition**. Deep overhangs on two levels. Peeling paint everywhere. Recommend replacement of +/- 400 LF at eave/ corner, +/- 600 SF of soffits, and refinish all. 2nd floor sheet metal cladding in **fair condition**.

- *Foundation*

  Concrete masonry unit (CMU) walls and crawl space in **good condition**. Leak at crawl space traps water in bulkhead. Poured concrete steps in **good condition**.

Framing

Hip Roof: Wood 2 x 8 @ 24" O.C. and 2 x 6 C.J. @ 24" O.C. with plywood sheathing and insulation above ceiling. 3½" x 11¼" hip and valleys rafters. **Fair/good condition**.
Wall: Wood 2 x 4 with insulation. 2 x 4 bearing walls at corridors over 6 x 16 beams spanning 13'-0" across 16' x 16" CMU piers. **Fair/good condition**.
1st Floor: Wood 2 x 10 @ 16" O.C. in **fair/good condition**.
2nd Floor: Wood 2 x 10 @ 16" O.C. in **fair/good condition.**

Life Safety

The six means of egress from Building # 23 are in **fair condition**. All are metal doors with panic hardware. All have peeling paint and minor rust damage except the front. Advise refinish. Front door is in **poor condition**. Advise replacement. Two steel fire escapes on southeast side are rusted and non-conforming; advise replacement. Only one interior stair, non-conforming railings and width. Narrow corridors (36") and doors (24" and 28") and high (2") thresholds to toilet rooms in suites: non-conforming. Three steps up to entrance - not handicap accessible. 5'-wide corridors.

Interior Conditions

- *Ceiling*

  Interior finishes include painted drywall and acoustic ceiling tile (ACT). Water damage at southwest corner of east wing. **Overall condition is fair/good**. Refinishing recommended.

- *Wall*

  Interior finishes include wood paneling and painted drywall in **fair/good condition**. Recommend refinishing. Ceramic tile in bathrooms in **good condition**. Boiler room is lined with transite.

- *Trim*

  Wood baseboard, window and door trim is in **fair/good condition**. Paint is peeling and cracking. Refinish and replacement of +/- 15 LF recommended. Narrow pressed metal trim in entry vestibule in **fair condition.**

- *Floor*

  Carpet on plywood subfloor throughout most. Vinyl-asbestos tile (VAT) in kitchen. All in **fair condition**. Tile in bathrooms in **fair/good condition**. Replacement of carpet and VAT advised.

Windows

Building #23 has 70 double hung windows, all in **poor condition**. Replacement is advised.

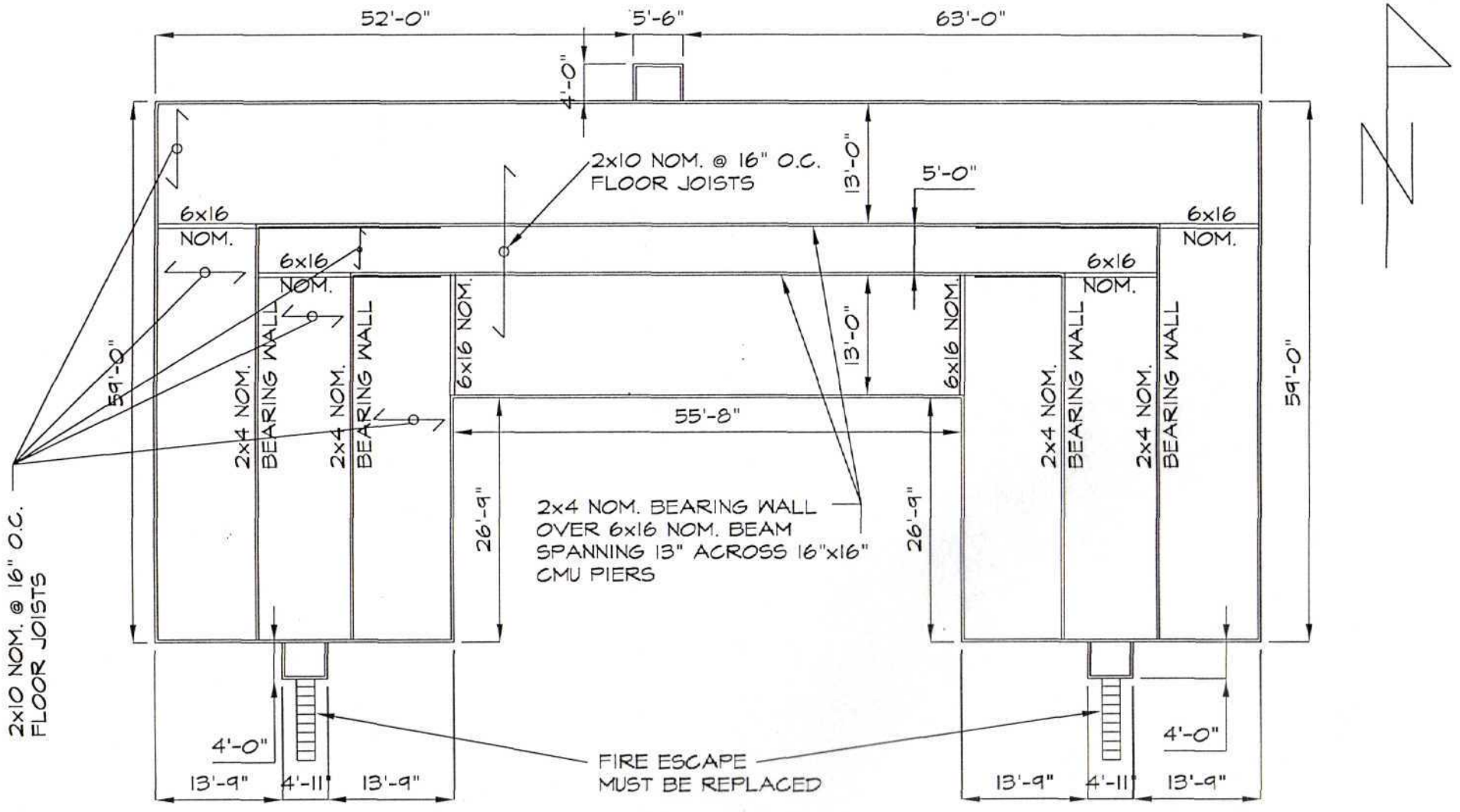
Doors

Interior hollow-core wood doors and four-panel, raised-panel wood doors are in **fair /good condition**. Narrow four-panel doors not handicap accessible; replacement advised. Refinishing advised for others.

Reusable Fixtures

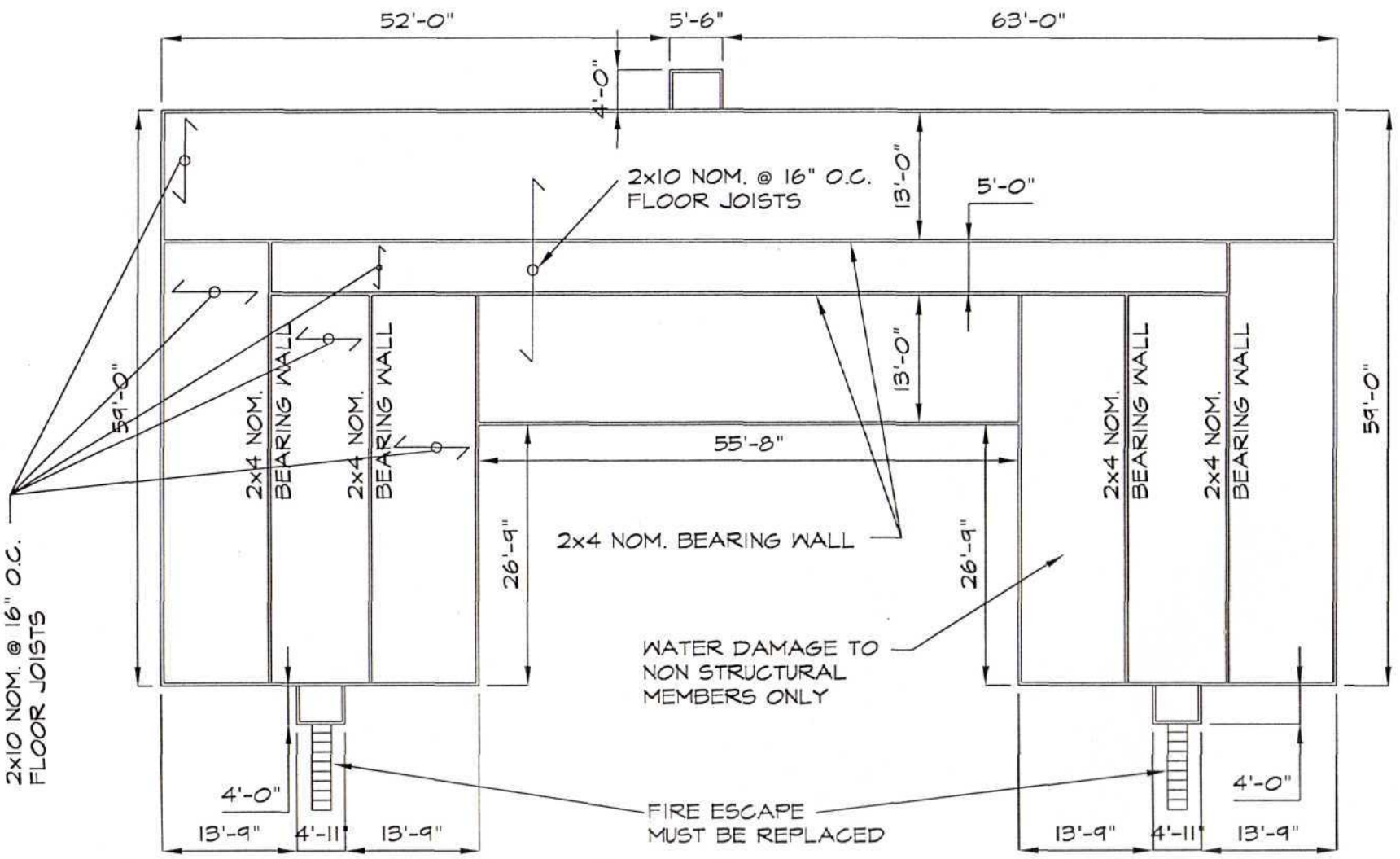
Toilet rooms are not reusable due to required replacement of infrastructure. Lavatories and janitor's sinks are in fair/good condition and may be refurbished with new hardware, etc.; refer to Mechanical/Electrical/Plumbing section.

Building Number: 23 FIRST FLOOR



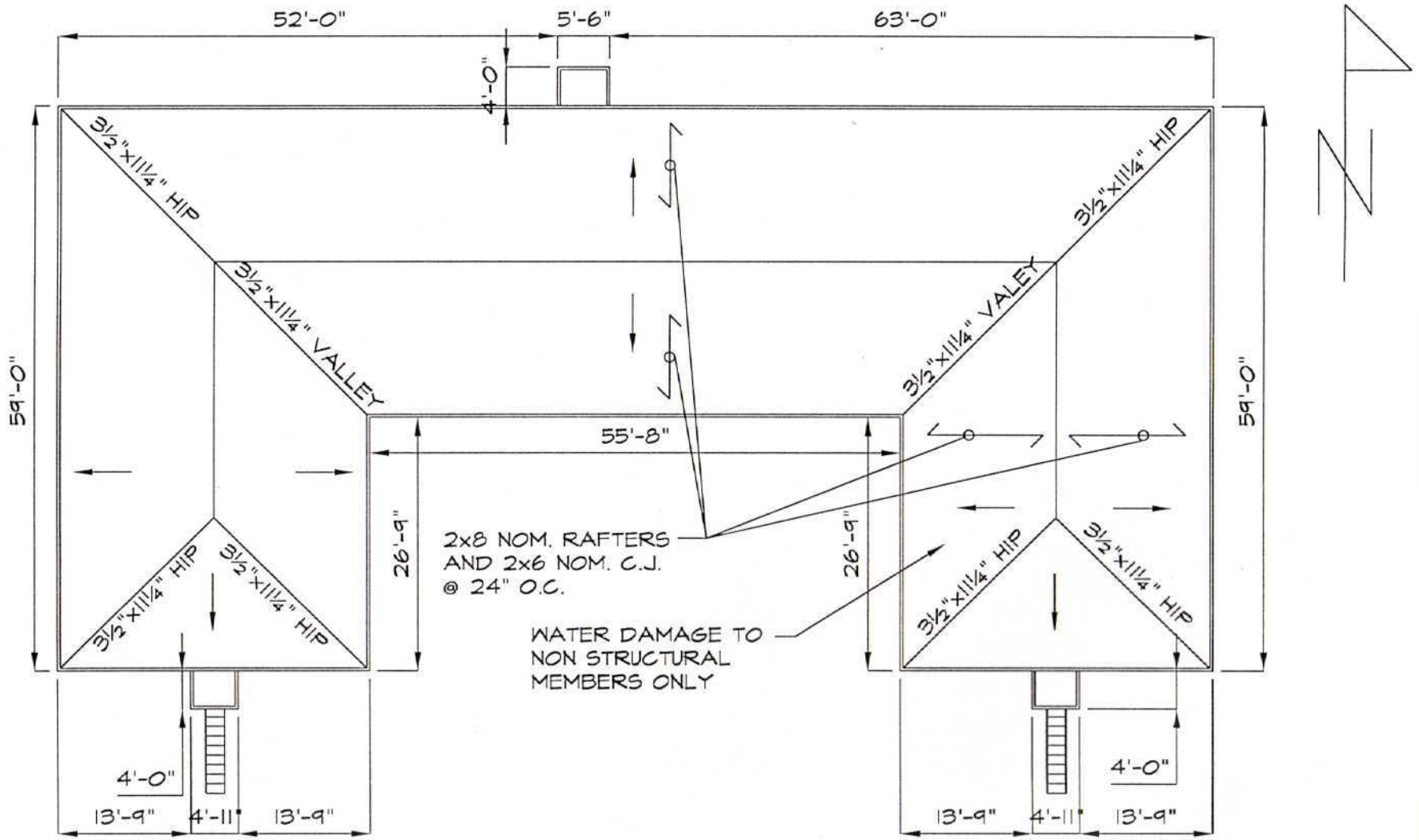
23 FIRST FLOOR

Building Number: 23 SECOND FLOOR



23 SECOND FLOOR

Building Number: 23 ROOF



23 ROOF

Building 23

A. Building Classification
Existing Dormitory/BOQ is assumed to be R-2 residential use, a multiple-dwelling category *including dormitories. Proposed* R-2 and B use anticipates a combination of dormitory, conference center and/or laboratory space. This analysis assumes that only the second floor is converted to dormitory use and that any new meeting or lab spaces will be occupied by fewer than 50 persons.

B. Occupancy and Fire Separations
Per 302.1.1, boiler and furnace rooms require 1-hour separation or an automatic fire suppression system. For R-2 and B use groups, storage rooms > 50 sf and < 100 sf in area require 1-hour separation or automatic fire suppression system with smoke partitions; storage rooms > 100 sf require automatic fire suppression system with smoke partitions.

Per 313.3, in type 5B buildings with an R occupancy, the first floor shall not be occupied for use group B unless the floor/ceiling assembly and the enclosure walls are protected to afford a 1-hour fireresistance rating, and the exits from the residential floor are separately enclosed. Per Table 313.1.2, 2-hour separation required between B and R-2 fire areas.

C. Type of Construction
Type 5B, wood-framed building without fire resistant wall construction (i.e., not "protected construction" per 702.1).

D. Floor Area
11,240 sf = 5,620sf per floor. 5,620 < 7,200 sf max. (for B) but > 4,800 sf max. (for R-2) allowed for 5B construction, per Table 503. However, 506.2 allows for street frontage increase of 2% for each 1% of frontage in excess of 25% of building perimeter (i.e., 75% x 2 = 150% for freestanding Bldg. 23). Where a building is equipped throughout with an automatic sprinkler system, the Table 503 area limitation shall be increased 200% for one- and two-story buildings, in accordance with 506.3.

E. Height and Number of Stories
2 stories; conforms to 2-story/30' max. for B and 2-story/35' max. for R-2 (Table 503).

F. Occupancy
Proposed dormitory, studio and/or office space. Maintenance of current R-2 use or change to B use in 5B building would result in change in Hazard Index of +1; Chapter 34 provisions are applicable but subject to 3400.3 residential use restrictions.

Maximum floor area allowance for residential use is 200 gsf per occupant (but actual number of 40 is assumed if all dormitory use; one occupant per room), 100 gsf per occupant for business and other areas (i.e., 58 occupants for shop or office). An "artist's studio" use group is not found in the Mass. State Code; per 305.2, structures occupied for business or vocational training are classified in the same use group as the vocation or business taught.

G. Exiting Requirements
Existing two-story Building #9 has six single-leaf exits and includes one internal egress stair and two (severely deteriorated) steel fire escapes. The existing fire escapes must be completely refurbished (if allowed by the building official) or replaced by two new enclosed egress stairs.

Per Table 1009.2, for R and B uses, egress width of doors, ramps and corridors per occupant is .2" without sprinkler system, .15" with sprinkler system. Existing egress widths are adequate for 85 occupants; however, existing egress stair has nonconforming railings and is fairly narrow.

Existing windows in Building 23 appear to fall slightly short of the emergency escape window height requirement, which states that every sleeping room in R occupancy shall have at least one operable window (44" max. sill height; min. 5.7 sf opening, min. 24" high x 20" wide) or exterior door approved for emergency egress or rescue (1010.4). However, outside windows are not required in buildings where the sleeping rooms are provided with doors or corridors having access to two remote exits in opposite directions, or in buildings equipped with automatic sprinkler systems.

H. **Loading Requirements**
Refer to plan diagrams for structural information.

I. **Accessibility**
Main entrance is three steps up; must be refurbished or adapted for universal accessibility.

Second-floor dormitory units will not be inaccessible unless an elevator is installed; alternatively, one or more first-floor dormitory units could be created. In any case, existing (36") internal corridors and doors are too narrow for wheelchair access. New accessible toilets, water fountain, etc. required to support proposed meeting and/or lab spaces.

BUILDING #23: REQUIRED ARCHITECTURAL AND STRUCTURAL REPAIRS

1.	Repair/replace framing and sheathing	200	sf
2.	Remove and replace rotted trim	1,000	lf
3.	Remove and replace cedar shingles	800	sf
4.	Prepare and paint wood trim, soffits	1	job
5.	Remove and replace exterior doors, hardware	3	ea
6.	Remove windows and replace with metal-clad wood windows	70	ea
7.	Repair and recondition window sills; paint	70	ea
8.	Remove and replace asphalt shingle roof	68	sq
9.	Install blown-in cellulose insulation at attic, R22	11,240	sf
10.	Install blown-in cellulose insulation at walls, cut & patch	7,500	sf
11.	Repair/patch CMU foundations	1	job
12.	Remove/replace steel fire escapes, paint	2	ea
12 Alt.	*Remove 2 fire escapes; construct 2 new encl. exterior fire stairs*	*1*	*job*
13.	General interior cleanout, mildew treatment	11,240	sf
14.	Patching and floor, wall and ceiling finishes (gfa)	11,240	sf
15.	New LULA elevator, interior shaft	1	job
16.	New toilet and mechanical room enclosures, toilet accessories	1	job
17.	Repair/replace/paint interior doors & trim	1	job

IV MECHANICAL, ELECTRICAL, FIRE PROTECTION AND PLUMBING REPORTS – BUILDING NUMBER 23

A. HEATING, VENTILATING AND AIR CONDITIONING

1. Existing Conditions

a. Heating Media
   1) Heating services provided from above-ground low pressure steam distribution systems that has been disconnected from inactive boiler plant.

b. Heating Distribution
   1) Fin-tube radiation elements (steel 4"x4" fins and 1" or ½" steel tubes) and self-contained "Danfoss" type control valves install within heating elements enclosures.

c. Additional Heating
   1) Some areas provided with additional electric heating.

d. Heating Return
   1) Condensate return piping within crawlspace is piped to return condensate pump located within exterior bulkhead.

e. Domestic Hot Water
   1) Domestic hot water is provided from low-pressure steam service.

f. Ventilation
   1) No central ventilation provided in any corridors or interior spaces.

g. Kitchen Exhaust
   1) Kitchen areas provided with wall mounted "Nutone" kitchen exhaust fan and self-contained hood (with filters) fans.

h. Toilet Exhaust
   1) No central toilet exhaust provided to any of the eight (8) toilets/window used for ventilation.

i. Janitor's Exhaust
   1) Janitor's closet is not provided with exhaust air systems.

2. Recommended Systems

a. Heating Media
   1) Hot water heating plant, heating media shall be provided by propane gas-fired boilers, with propane tanks located outside. Additional space within building will be required for heating plant, boilers, pumps, et cetera

b. Heating Distribution
   1) Forced hot water heating distribution piping systems, provided with fin-tube radiation and individual space controls.

c. Ventilation
   1) Due to the high ventilation air volume required (concentrated occupancy of 120) two heating and ventilating units and associated exhaust fans for service to conference/dorm areas are recommended. One unit shall serve the second floor dormitory and another unit shall serve the first floor conference center. For this evaluation of laboratory and dormitory, a larger heating and ventilation unit shall be provided to meet laboratory air requirements. Each unit will be provided with distribution air ventilation ductwork throughout the building and associated space reheat coils.

d. Toilet Exhaust
   1) New toilet exhaust air systems.

e. Miscellaneous Heating
   1) Heating of vestibules provided with cabinet unit heaters.

f. Automatic Temperature Controls
   1) Space automatic temperature controls (Electronic/direct digital) shall be provided.

g. Domestic Hot Water
   1) Refer to plumbing for domestic hot water services

h. Kitchen Exhaust
   1) Separate space exhaust air fans service for the kitchens and Janitor's closets shall be provided with separate roof exhaust fans.

i. Laundry Exhaust
   1) Laundry shall be provided with vented air.

j. Laboratory Exhaust
   1) Laboratory/Dorm facilities have been provided for exhaust and make-up air systems. Assume tenant to provide fume hood and roof-mounted fume hood exhaust fans. Heating plant has been sized for additional capacity to suit laboratory exhaust air.

3. Miscellaneous

a. No central air conditioning is scheduled for this building. However, window (electric) type unit may be considered for office and conference areas.
b. Estimated building heating requirements with ventilation air is 800 MBH (as labs 1000 MBH).
c. Refer to supplement section: Sustainable Passive Solar and Wind Energy Technologies

B. PLUMBING

1. Existing Conditions

a. Plumbing Fixtures
   1) First floor
      a) Kitchen 1 – Plumbing consisted of a stainless steel double bowl sink in fair condition.
      b) Kitchen 2 – Plumbing consisted of a stainless steel double bowl sink in fair condition, a disposer in failed condition and a dishwasher in failed condition.
      c) A washing machine connection was found in a room off the front corridor. The water and waste pipe configurations do not meet code. Vacuum breakers were not present on the water connections. The waste standpipe installation does not comply with code.
      d) (8) Bathrooms, each consisting of a built-in shower stall with drain and shower valve in poor/failed condition, a floor mounted water closet with flush valve and a counter mounted lavatory. The lavatory may be re-used.
      e) A janitor's sink was assumed located in a locked room off the front corridor (below the second floor janitor's closet). The sink may be re-used if in same condition as second floor.
   2) Second Floor
      a) (8) Bathrooms, each consisting of a built-in shower stall with drain and shower valve in poor/failed condition, a floor mounted water closet with flush valve and a counter mounted lavatory. The lavatory may be re-used.
      b) A janitor's sink was found in a closet off the front corridor. The sink may be re-used.
b. Water Service
   1) A 2-inch service was found in the domestic water heater room. The service enters the building below the first floor and runs within the crawlspace.
c. Water Heating
   1) A vertical storage, steam fired domestic water heater is located in a closet off the first floor front hallway. Only the Patterson Kelly tank remains abandoned in place. All trim and steam accessories were demolished.
d. Domestic Water Distribution
   1) Any piping that remains, runs in vertical partitions between floors. Cold water service (assume) runs within the crawlspace below the first floor. Hot and cold water distribution runs above (assume) the first floor ceiling. (Gypsum above and suspended tile below in various places).
e. Sanitary Distribution
   1) Assume runs above concealed ceilings, down vertical bathroom partitions and within the crawlspace. Vent piping was not found. Assumed to collect in attic space and exits through the roof at multiple locations.
f. Miscellaneous (beyond assumptions)
   1) Pending the results of careful demolition, the two janitor's sinks and (16) lavatories may be refurbished and re-used, with new waste, trim, new faucets, valves and hangers. The toilet rooms require complete demolition in order to replace all of the plumbing infrastructure. Americans with Disabilities Act compliance is as noted in the architectural section.

2) The water heater with extensive missing trim, remaining water piping and remaining sanitary piping have all exceeded their intended service life.
3) No floor drains were found in laundry area, water heater room or mechanical rooms.
4) Exterior wall hydrants were not present on this building.

2. Recommendations (Conference Center or Labs on First Floor and Dormitory on Second Floor)

a. Plumbing Fixtures
   1) 29 Men (Meeting Rooms or Lab)
      a) (1) Water closet
      b) (1) Urinal
      c) (1) Lavatory
      d) (1) Floor drain
      e) (1) Hose bibb
   2) 29 Women (Meeting Rooms or Lab)
      a) (2) Water closets
      b) (1) Lavatory
      c) (1) Floor drain
      d) (1) Hose bibb
   3) 14 Men (Dormitory)
      a) (2) Water closets
      b) (1) Urinal
      c) (2) Lavatories
      d) (2) Showers
      e) (3) Floor drains
      f) (1) Hose bibb
   4) 14 Women (Dormitory)
      a) (3) Water closets
      b) (2) Lavatories
      c) (2) Showers
      d) (3) Floor drains
      e) (1) Hose bibb
   5) General building (for either use)
      a) (2) Drinking fountains (one per floor)
      b) (2) Janitor's sinks (one per floor)
      c) (4) Exterior wall hydrants.
      d) (2) Mechanical room floor drains
      e) (2) Mechanical room hose bibbs

b. Water Service
   1) A new 3-inch service would be required to accommodate the proposed fixtures and possible lab. The service would enter into the crawlspace below the first floor in an accessible location. If lab requirement is removed, then a 2-inch service is required.

c. Water Heating
   1) For estimating purposes, a base building water heating plant will be selected for the meeting room and dormitory fixtures only. The water heater for the lab equipment would be provided by the tenant during the fit-up of the space. The domestic hot water load could be combined if the lab is fit-up during the base building renovations. Due to the proposed shower load and proposed base building fixtures requiring hot water, a propane fired indirect water heating plant is recommended. A propane fired boiler and storage tank skid system would be located within a mechanical room on the first or second floor. The room would have a floor drain and hose bibb. This water heating configuration would allow a supplemental heating source (solar or building heating system) to maintain tank temperature when possible. A master thermostatic mixing valve would also be included to prevent scalding due to fluctuating temperatures within the storage tank from the different heating sources. This configuration also allows flexibility in designing/specifying the proper storage and recovery required to accommodate either a lab or meeting space on the first floor.

d. Domestic Water Distribution
   1) New domestic hot and cold water piping would run above the first floor ceiling. Branch piping would rise to supply fixtures on the second and drop to first floor fixtures. An additional 2-inch cold water main with a reduced pressure backflow preventer would be left capped by the service entrance for connection by the lab tenant.

e. Sanitary Distribution
   1) A new 5-inch sanitary service would be required to accommodate the proposed fixtures. Piping for second floor fixtures would run within the second floor ceiling

and drop within first floor partitions. The first and second floor sanitary mains would collect within the crawlspace and exit the building. Conversely, all vent piping would rise and collect within the attic space and exit to atmosphere with several 4-inch vents through roof.

2) A separate 4-inch acid waste main would need to exit the building to accommodate the lab. For estimating purposes, this additional main as well as any required traps, separators and neutralization systems is all by the tenant.

f. Propane System
   1) Similar to water heating, for estimating purposes, a base building system would be installed to accommodate the domestic water and building heating systems. The propane system with emergency shut-offs at each lab area would be provided by the tenant.
   2) A new gas main will follow the domestic water route to the mechanical rooms.
   3) Between the building heating and potential lab gas loads, this building will require a relatively large storage tank. Based on review with a propane supplier, and tenant arrangements, it may be more economical and efficient (reduce deliveries) to combine and connect all the buildings surrounding building 23 to one bulk propane storage tank (above or below grade). Meters could be proposed at each building for billing and usage, et cetera

g. Miscellaneous
   1) Kitchen and laundry provisions are not included at this time.
   2) To eliminate the time required and associated fuel/water wasted for proper temperature to reach fixtures, electric temperature maintenance cable on all domestic hot water piping is recommended
   3) The lab equipment and related plumbing systems must be kept separate due to the many variables and options of lab types, equipment and layouts. Fit-up connections from the water service, sanitary connections, propane service et cetera are readily accessible if a tenant decides to occupy the first floor. The base building systems should be kept separate to reduce unnecessary initial expenses to the national park service.
   4) Water heating loads and propane loads could be combined if project schedule and coordination allows.
   5) The domestic hot water load for base building and potential lab could be combined with the building heating system with modular boilers and a storage tank. This water heating configuration would allow a supplemental heating source (solar) to maintain tank temperature when possible.
   6) For sustainability, review Sustainability Section and possible combining of systems as noted above.

C. FIRE PROTECTION

1. Recommendations:

a. An automatic fire suppression system shall be installed per code (R-2 use group).
b. A dry automatic fire suppression would be installed.
c. A new, 4-inch service with double check valve assembly would be necessary.
d. Two new dry alarm check valves with related trim would be necessary. One for the crawlspace and first floor systems and one for the second floor and attic area systems.
e. Piping would be schedule 40 steel with screwed fittings and be sized for light hazard occupancy per NFPA 13 standards.
f. Sprinklers would be installed throughout the crawlspace, first floor, second floor and attic space.
g. The lab type tenant would require a higher system to meet code. Hazard varies with potential tenant. The necessary revisions and upgrades to the base building light hazard system would be the responsibility of the lab tenant.

D. ELECTRICAL

1. Existing Conditions:

a. Building Electric Service:
   1) 150 ampere, 120/208 volt, three phase, 4-wire, overhead service drop from pole, to a General Electric, 200 ampere, main fused disconnect switch with 200 ampere fuses, which feeds a Square D main panel with 125 ampere, 3 phase, main circuit breaker and branch circuit breakers. Panel is in poor condition with missing cover and parts. Service has been disconnected.

b. Sub-Panel:
   1) Kinney, 125 ampere, 120/208 volt, 3 phase, 4 wire, with 32 poles and branch circuit breakers located in first floor corridor. Panel is in poor condition.

c. Fire Alarm System:
   1) A fire alarm panel was not observed to be present. The system is hardwired with 1 zone. There are ProtectoWire pull stations located at the back and front entries on both floors. There are smoke detectors located in the corridors and the rooms. There are alarm-indicating bells located in the corridors. The system is not operational and in poor condition.

d. Lighting:
   1) Fixtures are generally incandescent, surface mounted on ceilings. Some fixtures are surface mounted fluorescent. There are incandescent jelly jar type fixtures in the stairways. Fixtures are in fair to poor condition.

e. Emergency Lighting:
   1) None.
   2) Exit signs are incandescent and are in poor condition.

f. Exterior Lighting:
   1) Incandescent, square, surface mounted type, 120 volts, switch controlled. Fixtures are in poor condition with lenses missing.

g. Wiring Devices:
   1) Grounding type receptacles, color: brown (some painted). Devices and coverplates are in fair to poor condition.

h. Telephone System:
   1) System enters the building underground and is in disrepair. System has been disconnected. Interior wiring is in poor condition.

2. Recommendations:

a. All systems are in fair to poor condition and must be replaced for the building to be habitable for any use. See Part III Typical Mechanical, Electrical, Fire Protection and Plumbing Items.

b. Refer to "Sustainability Supplement" section.

We have listed in Table 1 the location and estimated quantity, by square foot (sf), linear foot (lf), or other appropriate unit, of each type of ACBM identified at the site. We have also provided asbestos location drawings in Appendix B.

TABLE 1. • List Of Materials Testing Positive For Asbestos

Building 23, Truro Air Base, North Truro, Massachusetts

Type of Material	Location	Quantity
Two layers of brown 9"x 9" floor tile and associated mastic adhesive separated by plywood flooring	Throughout first and second floor	8,860 sf
Joint compound and associated gypsum wallboard	Throughout first and second floor, excluding most bathroom areas	16,500 sf
Black mastic and associated gray 12"x12" floor tile	First and second floor office area	260 sf
Black mastic on underside of sinks	First floor kitchen areas	2 total
Thermal system pipe insulation and associated mud fitting insulation (some pipe hidden behind fixed walls, ceilings and chases)	First and second floor	400 lf
Plumbing pipe insulation (some pipe hidden behind fixed walls, ceilings and chases)	First and second floor	500 lf
Black glue daubs	Second floor office at west end of building	80 sf

In Table 2, all materials that tested negative for asbestos are listed, including the locations where these materials were observed and the corresponding bulk sample reference number(s).

TABLE 2. • List Of Materials Testing Negative For Asbestos

Building 23, Truro Air Base, North Truro, Massachusetts

Type of material	Location(s) observed	Sample number(s)
Black mastic adhesive under brown 9"x 9" floor tile (top layer)	Throughout	23-02A
Black tar paper under brown floor tile (bottom layer)	Throughout	23-05A
Tan vapor barrier paper under bottom layer of floor	Throughout	23-06A
Gray 12"x12' floor tile	First and second floor	23-10A
Gray cement plaster	Bathrooms throughout	23-16A, 23-12B
White gypsum wallboard must be treated as ACM due to cross-contamination by joint compound	Throughout	23-14A, 23-14B, 23-14C
Black tar paper	Under exterior wood shingle siding	23-18A

2.0 Conclusions and Recommendations

On the basis of our findings, we offer the following conclusions and recommendations:

1. Both friable and nonfriable ACBM were identified at the site. Should the building be renovated or demolished, removal of the ACBM will be necessary. Abatement of all friable and nonfriable ACBM that will be made friable by demolition activities must be performed before building demolition. This work should be conducted by a licensed Asbestos Abatement Contractor in accordance with a project design prepared by a certified Abatement Project Designer.
2. ACM pipe insulation was identified behind fixed walls, above fixed ceilings and in enclosed chases. In addition, plumbing pipe insulation was observed behind fixed walls and above fixed ceilings and within bathroom wet walls. Additional pipe insulations may be present that were not identified as limited intrusive testing was performed.
3. The two layers of ACM floor tile are separated by plywood flooring and would require removal of the plywood to access all layers of flooring. The associated plywood must be treated as ACM due to cross-contamination from the floor tile mastic adhesive.
4. If any suspect ACBM are identified at a later date that are not addressed in this inspection report, they should be assumed to be ACBM unless appropriate sampling and analysis demonstrates otherwise.
5. Develop a site-specific operations and maintenance (O&M) program for properly maintaining ACBM that will remain in place. Such a program would include a site-specific O&M plan, training of workers who may impact ACBM, periodic inspection of locations where ACM is present, and other applicable guidelines and procedures.

VHB XRF Field Testing Results

Site Access: Yes
Demo Permitted?: Yes
Project# 06780
Location: Building #23

Date 11/4/99
Page 1 of 2
Project Name: N. Truro AFS
Inspector: TMD

Location	Surface Tested	Substrate	Concentration (mg/cm^2)	Estimated Quantity
First Floor				
Common Area	White ceiling	SR	< 0.1	
	White wall	SR	< 0.1	
Hallway	White door	Wood	< 0.1	
	Brown door to exterior	Wood	< 0.1	
Room #103	White textured bathroom wall	Plaster	< 0.1	
	White door	Wood	< 0.1	
	White window casing	Wood	< 0.1	
	White wall	SR	< 0.1	
	White baseboard	Wood	< 0.1	
Kitchen	White wall	SR	< 0.1	
	White upper cabinets	Wood	< 0.1	
	White lower cabinets	Wood	< 0.1	
	White door	Wood	< 0.1	
	White pantry door	Wood	< 0.1	
	White wall	SR	0.3	
Foyer	White wall	SR	0.2	
	White door	Metal	0.5	
	White ceiling	SR	0.1	
Room #107	White door	Wood	< 0.1	
	White window casing	Wood	< 0.1	
	White wall	SR	0.2	
	White textured bathroom wall	Plaster	< 0.1	
Second Floor				
Room #203	White door	Wood	< 0.1	
	White window casing	Wood	< 0.1	
	White wall	SR	0.2	
	White textured bathroom wall	Plaster	0.2	
	White ceiling	Plaster	< 0.1	
Hallway	White wall	SR	0.3	
	White baseboard	Wood	< 0.1	
	Blue door to exterior	Metal	0.1	
Storage Room	White wall	SR	0.1	
Room #208	White window casing	Wood	< 0.1	
	White door	Wood	< 0.1	
	White baseboard	Wood	0.1	
	White wall	SR	0.1	
	White ceiling	Plaster	0.2	

*LBP components only. Limit of detection of NITON XRF is **< 0.1 mg/cm²**) SR=Sheet Rock Block=Cinder Block

VHB

XRF Field Testing Results

Site Access: Yes
Demo Permitted?: Yes
Project# 06780
Location: Building #23

Date 11/4/99
Page 2 of 2
Project Name: N. Truro AFS
Inspector: TMD

Location	Surface Tested	Substrate	Concentration (mg/cm^2)	Estimated Quantity
Exterior	Brown trim	Wood	< 0.1	
	Brown upper trim	**Wood**	**8.6**	
	Brown eve	**Wood**	**8.2**	
	Brown heat vent casing	**Wood**	**12.0**	
	Tan emergency door stair railing	Metal	< 0.1	
	Brown exterior door, east wing	Wood	0.2	

*LBP components only. Limit of detection of NITON XRF is < **0.1 mg/cm^2**) SR=Sheet Rock Block=Cinder Block

VHB

Oil and Hazardous Materials (OHM) Inventory

Project: Former Air Force Station **Project # 06780**
Location: North Truro, MA

Location	Waste Type	Container Type	Volume of Conte	Quantity	Comments
Building #23					
	Mercury	Fluoroscent bulbs		3	4 foot
	PCBs	Light ballasts		2	